

## CLAIMS

1. An insulation system (1) for pipes, containers, ventilation ducts and like installation parts which have  
5 an outer surface temperature which periodically is below the dew point of the ambient air, said insulation system comprising a thermally insulating layer (5) and a vapour barrier (2) arranged on one side of the thermally insulating layer, characterised by  
10 a hygroscopic material (3) arranged between the vapour barrier (2) and the thermally insulating layer (5), said hygroscopic material (3) being at least partially connected with the vapour barrier (2), and the combination of the vapour barrier (2) and the  
15 hygroscopic material (3) being connected with the thermally insulating layer (5) in such a manner that the hygroscopic material (3) partially makes contact with the thermally insulating layer (5).
2. An insulation system as claimed in claim 1, in which  
20 the hygroscopic material (3) is connected with the thermally insulating layer (5) by means of a thermoplastic binder (4) which is arranged so that, after heating to a temperature above its melting point, it exposes the hygroscopic material (3) to the thermally insulating layer (5).
3. An insulation system as claimed in claim 1, in which the hygroscopic material (3) is thermoplastic.
4. An insulation system as claimed in claim 1, in which the vapour barrier (2) and the hygroscopic material  
30 (3) constitute a laminate (7).
5. An insulation system as claimed in claim 1, in which the vapour barrier (2), the hygroscopic material (3) and the thermoplastic binder (4) constitute a laminate (7).
- 35 6. An insulation system as claimed in claim 5, in which the thermoplastic binder (4) is arranged in a first

layer next to the vapour barrier (2) and in a second layer next to the thermally insulating layer (5).

7. An insulation system as claimed in claim 4 or 5, in which the laminate (7) comprises perforations (8) 5 which are adapted to make the hygroscopic material (3) communicate with the ambient air.

8. An insulation system as claimed in claim 1, in which the hygroscopic material (5) is a non-continuous layer.

10 9. An insulation system as claimed in claim 1, in which the thermoplastic binder (4) is arranged as a non-continuous layer.

15 10. An insulation system as claimed in claim 1, in which the thermally insulating layer (5) comprises an additional hygroscopic material (14; 14').

11. An insulation system as claimed in claim 10, in which the thermally insulating layer (5) and the additional hygroscopic material (14; 14') constitute a flexible pipe shell, a pleated mat or a laminated mat.

20 12. An insulation system as claimed in claim 1, in which the hygroscopic material (3) forms a reinforcement of the vapour barrier (2).

13. An insulation system as claimed in claim 4 or 25 5, in which the laminate (4) has such a width as to form flaps (11; 11a; 11b) which can be made to enclose pipes, containers, ventilation ducts and like installation parts.

14. An insulation system as claimed in any of the 30 claims 1, 4 or 5, in which the vapour barrier (2) has moisture adaptive properties.

15. Use of an insulation system as claimed in any one of claims 1-14.